

PRICHARD TAVERN (PWSNO 1400042) SOURCE WATER ASSESSMENT REPORT

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State of Idaho Department of Environmental Quality

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SOURCE WATER ASSESSMENT FOR PRICHARD TAVERN

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your drinking water source is based on well construction characteristics; site specific sensitivity factors associated with the aquifer the water is drawn from; a land use inventory inside the well recharge zone; and water quality history. For non-community transient water systems like Prichard Tavern, recharge zones were generally delineated as a 1000-foot fixed radius around the wells.

This report, *Source Water Assessment for Prichard Tavern* describes factors used to assess susceptibility to contamination. The analysis relies on information from the well log; an inventory of land use inside the delineation boundaries, well site characteristics, potential contaminant sites identified through a Geographic Information System database search; and information from the public water system file. The ground water susceptibility analysis worksheet for Prichard Tavern is attached.

Taken into account with local knowledge and concerns, this assessment should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Well Construction.

The Prichard Tavern water system serves a tavern and home in Prichard, Idaho. Drinking water is supplied by a shallow drilled well located between the tavern and adjacent house. The 4-inch well casing extends 23 inches above ground and is fitted with a vented watertight well seal and pitless adapter. No deficiencies in wellhead or surface seal maintenance were noted during a sanitary survey of the system in July 2001. The driller's log for the Prichard Tavern well is not on file with DEQ so several factors used to assess vulnerability to contamination are unknown. Estimates of the well's depth are from 20 to 25 feet, with the static water level only 8 feet below ground surface.

Well Site Characteristics.

Hydrologic sensitivity scores reflect natural geologic conditions at the well site and in the recharge zone. Information for this part of the analysis is derived from individual well logs and from the soil drainage classification inside the delineation boundaries. 5 points out of 6 points possible were marked against the Prichard Tavern well in this portion of the analysis.

Soils covering recharge zone delineated for Prichard Tavern are moderately well drained. Soils in this classification are less protective of the ground water than soils that drain slowly. The soil composition above the water table at the well site is not known. A site investigation in 2001 concluded that the well might be influenced by surface water. Further testing is required before a final determination can be made.

Potential Contaminant Inventory.

Land inside the protection zone delineated for Prichard Tavern is mostly undeveloped forest. Sewer lines from the tavern are about 15 feet from the well. Under the Idaho Rules for Public Drinking Water Systems (IDAPA 16.01.08) the minimum separation distance allowed between a well and sewer lines is 50 feet. The septic tank and drainfield appear to be less than 100 feet, the minimum separation distance, from the well. In addition to microbial contaminants, septic systems can be a source of nitrate, pharmaceutical and heavy metal contamination. The well is about 320 feet south west of Prichard Creek, and was contaminated with total coliform bacteria during flooding in 1996. County roads crossing the delineation boundaries carry low volume local traffic.

Water Quality History.

In the period from June 1993 through December 2002, total coliform were present in samples tested in September 1994, February 1996, December 1996 and January 1997. Both total coliform and E. coli were present in a sample submitted in October 2001. Follow-up tests were negative. The system failed to monitor as required during several reporting periods.

Annual tests for nitrates show concentrations ranging from undetectable levels to 0.099 mg/l. The Maximum Contaminant Level for nitrate is 10 mg/l.

Susceptibility to Contamination.

An analysis of the Prichard Tavern well, incorporating information from the public water system file, and the potential contaminant inventory, automatically ranked the well highly susceptible to microbial and inorganic chemical contamination because of the presence of septic system components inside the sanitary setback. Susceptibility to contamination with synthetic and volatile organic chemicals is moderate. Risk factors related to the shallowness of the well added the most points to the final susceptibility scores. The complete ground water susceptibility work sheet for your system is on page 6 of this report. Formulas used to compute final scores and susceptibility rankings are at the bottom of the worksheet.

Source Water Protection.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

Operating and maintaining the well in compliance with the *Idaho Rules for Public Drinking Water Systems* is the most important drinking water protection tool available to Prichard Tavern. The 2001 sanitary survey report concluded that either the well or septic system needs to be moved in order to meet minimum setback requirements. Monthly monitoring for total coliform is required until the system is reconfigured.

Prichard Tavern should also investigate ground water stewardship programs like Home*A*Syst on the web or by phone (608) 262-0024. These programs are designed to help well owners assess everyday activities for their potential impact on drinking water quality. Topics include septic system maintenance, petroleum product storage, handling and storing lawn and household chemicals and similar activities.

Every water system should develop an emergency response plan. There is a simple fill-in-the-blanks form available on the DEQ website to guide systems through the emergency planning process.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

Assistance.

Public water suppliers and users may call the following IDEQ offices with questions about this assessment and to request help with drinking water protection planning.

Coeur d'Alene Regional DEQ Office (208) 769-1422

State IDEQ Office (208) 373-0502

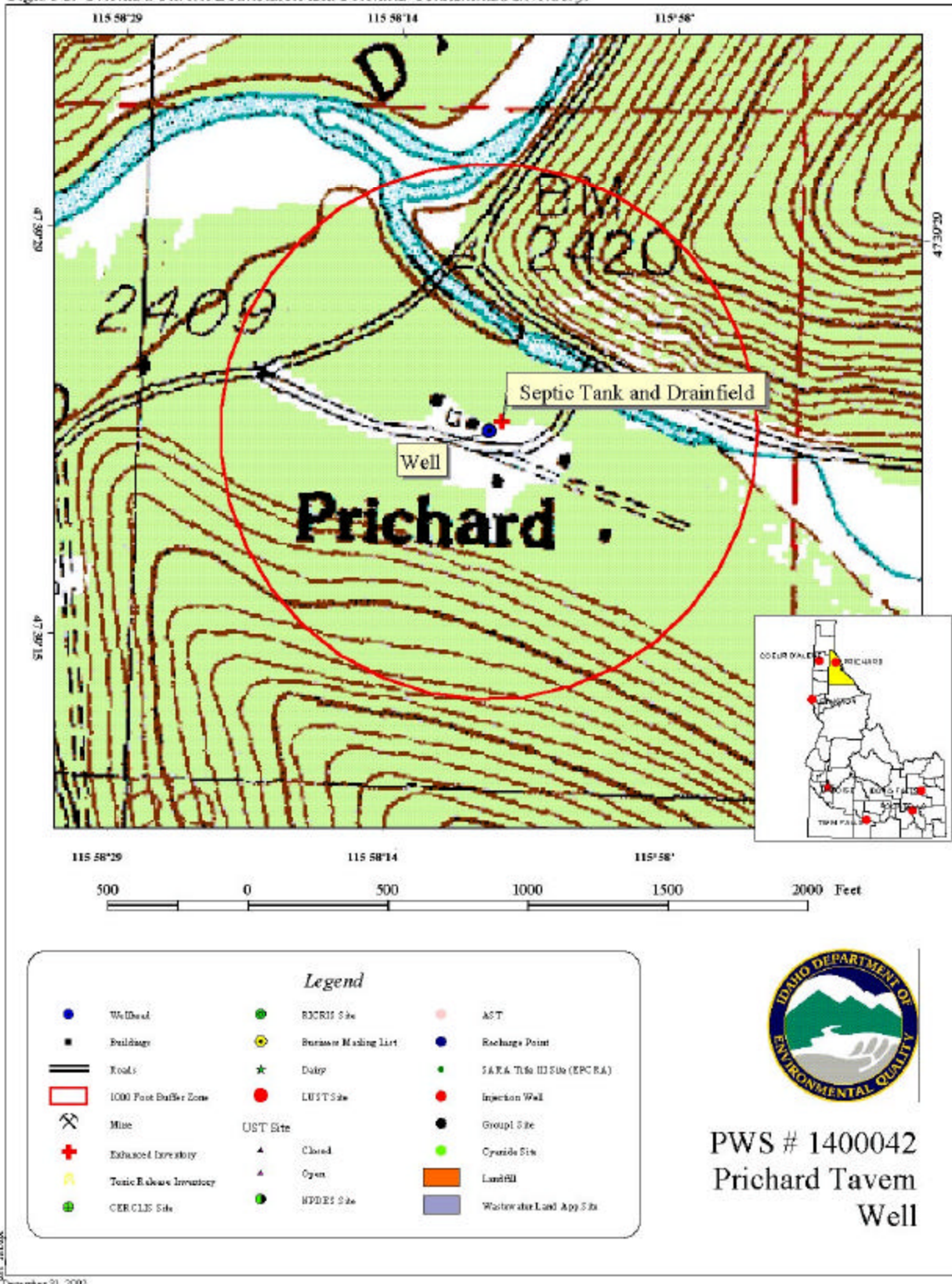
DEQ Website: www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Melinda Harper of the Idaho Rural Water Association (208) 343-7001 for assistance with drinking water protection strategies.

Idaho Rural Water Association Website: www.idahoruralwater.com

Home * A * Syst Website: www.uwex.edu/homeasyst

Figure 1. Prichard Tavern Delineation and Potential Contaminant Inventory.



Ground Water Susceptibility

Public Water System Name : **PRICHARD TAVERN**
Public Water System Number : **1400042**

Well : **WELL #1**
12/31/02 9:00:16 AM

1. System Construction		SCORE			
Drill Date	UNKNOWN				
Driller Log Available	NO				
Sanitary Survey (if yes, indicate date of last survey)	YES 2001				
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	UNKNOWN	2			
Highest production 100 feet below static water level	NO	1			
Well subject to flooding	YES	1			
Total System Construction Score		5			
2. Hydrologic Sensitivity					
Soils are moderately drained	YES	1			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		5			
3. Potential Contaminant / Land Use		IOC	VOC	SOC	Microbial
		Score	Score	Score	Score
Land Use	Mostly undeveloped	0	0	0	0
Farm chemical use *High	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Sanitary Setback	YES, Sewer line, septic tank & drainfield	YES	NO	NO	YES
Initial Potential Contaminant Source/Land Use Score		0	0	0	0
Potential Contaminant / Land Use - 1000-Foot Radius					
Contaminant sources present (Number of Sources)	YES	0	0	0	1
(Score = # Sources X 2) 8 Points Maximum		0	0	0	2
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
1000-Foot Radius contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use 1000-Foot Radius	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - 1000-Foot Radius		0	0	0	2
Cumulative Potential Contaminant / Land Use Score		0	0	0	2
4. Final Susceptibility Source Score		10	10	10	11
5. Final Well Ranking		*High	Moderate	Moderate	*High

*High due to presence of septic system components inside Sanitary Setback zone.

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Ranking:

0 - 5 Low Susceptibility
6 - 12 Moderate Susceptibility
> 13 High Susceptibility

POTENTIAL CONTAMINANT INVENTORY LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ? Superfund? is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.